

## ABSTRACT OF THE DISCLOSURE

A network gateway device has a physical interface for connection to a medium. The device has an ingress processor system for ingress processing of all or part of packets received from the physical interface and for sending ingress processed packets for egress processing. The device has an egress processor system for receiving ingress processed packets and for egress processing of all or part of received packets for sending to physical interface. Interconnections are provided, including an interconnection between the ingress processor and the egress processor, including an interconnection between the ingress processor and the physical interface, and including an interconnection between the ingress processor and the physical interface. A packet queue is provided with packets awaiting transmission. The packet queue may be the exclusive buffer for packets between packets entering the device and packet transmission. The packets may exit the device at a rate of the line established at the physical interface. The ingress processing system processes packets including at least one or more of protocol translation, de-encapsulation, decryption, authentication, point-to-point protocol (PPP) termination and network address translation (NAT). The egress processing system processes packets including at least one or more of protocol translation, encapsulation, encryption, generation of authentication data, PPP generation and NAT.